

FIG. 1A

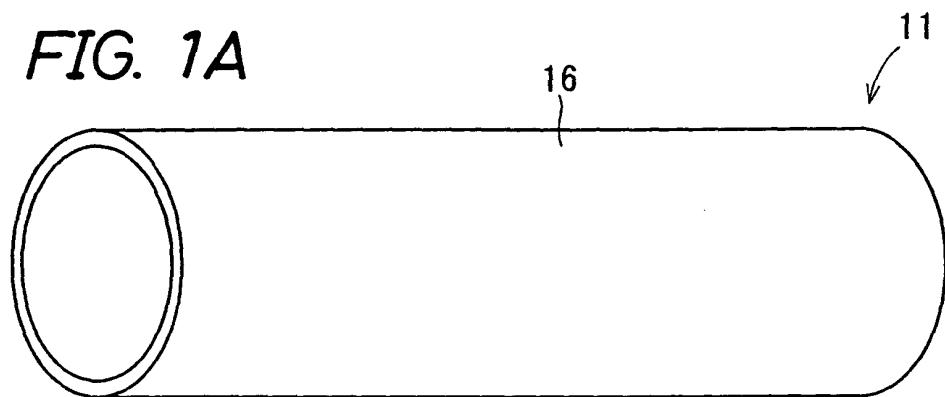


FIG. 1B

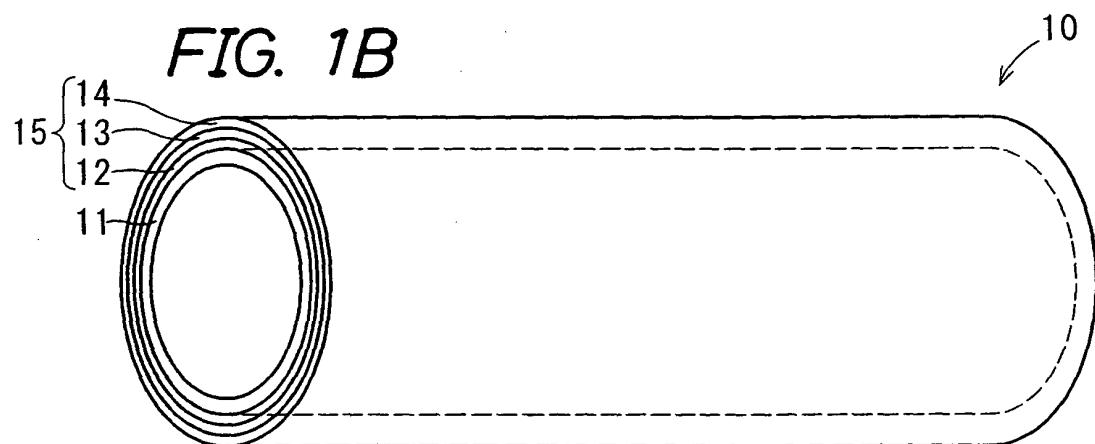
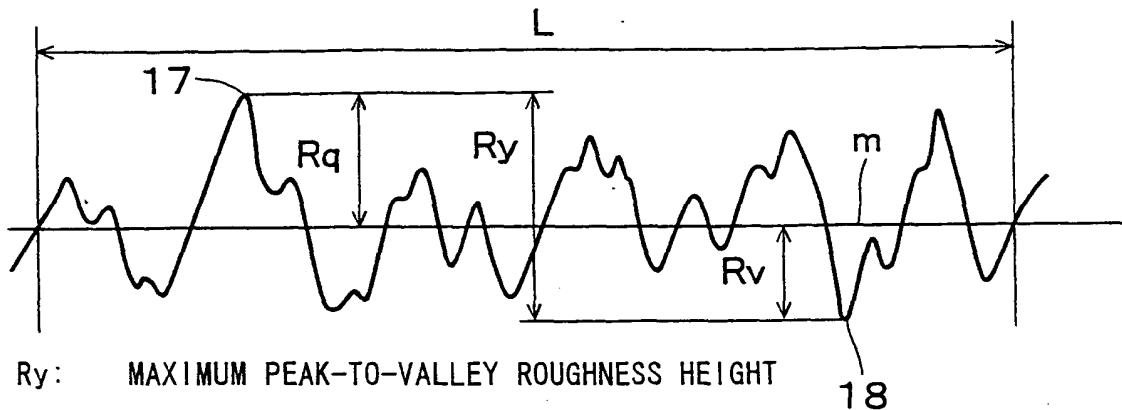


FIG. 2

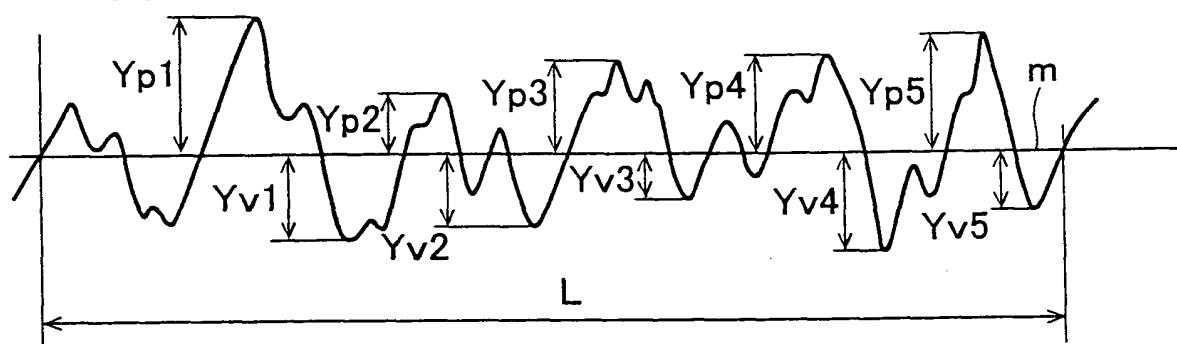


$R_y$ : MAXIMUM PEAK-TO-VALLEY ROUGHNESS HEIGHT

$m$ : AVERAGE LINE

$L$ : REFERENCE LENGTH

FIG. 3



$$R_z = ( | Y_{p1} + Y_{p2} + Y_{p3} + Y_{p4} + Y_{p5} | + | Y_{v1} + Y_{v2} + Y_{v3} + Y_{v4} + Y_{v5} | ) / 5$$

$Y_{p1}$ ,  $Y_{p2}$ ,  $Y_{p3}$ ,  $Y_{p4}$ ,  $Y_{p5}$ : HEIGHT OF THE HIGHEST PEAK TO THE 5<sup>TH</sup> HIGHEST PEAK IN A TAKEN-OUT PORTION CORRESPONDING TO REFERENCE LENGTH  $L$

$Y_{v1}$ ,  $Y_{v2}$ ,  $Y_{v3}$ ,  $Y_{v4}$ ,  $Y_{v5}$ : HEIGHT OF THE DEEPEST VALLEY TO THE 5<sup>TH</sup> DEEPEST VALLEY IN A TAKEN-OUT PORTION CORRESPONDING TO REFERENCE LENGTH  $L$

$R_z$ : TEN-POINT AVERAGE ROUGHNESS

$m$ : AVERAGE LINE

$L$ : REFERENCE LENGTH

FIG. 4

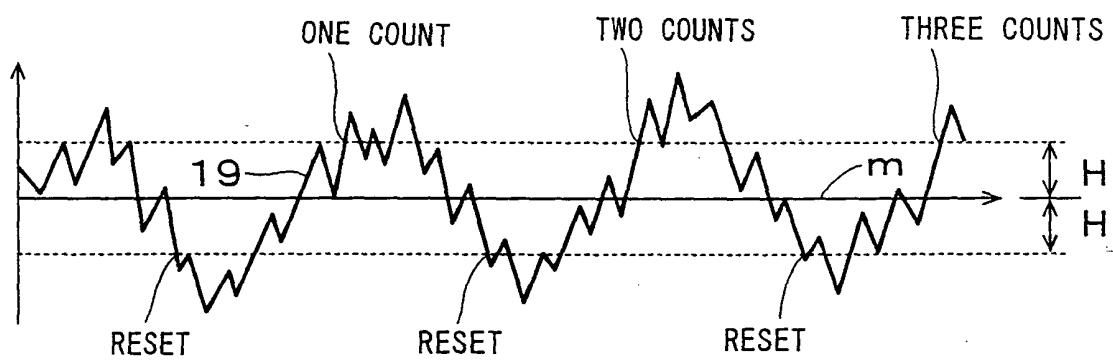


FIG. 5

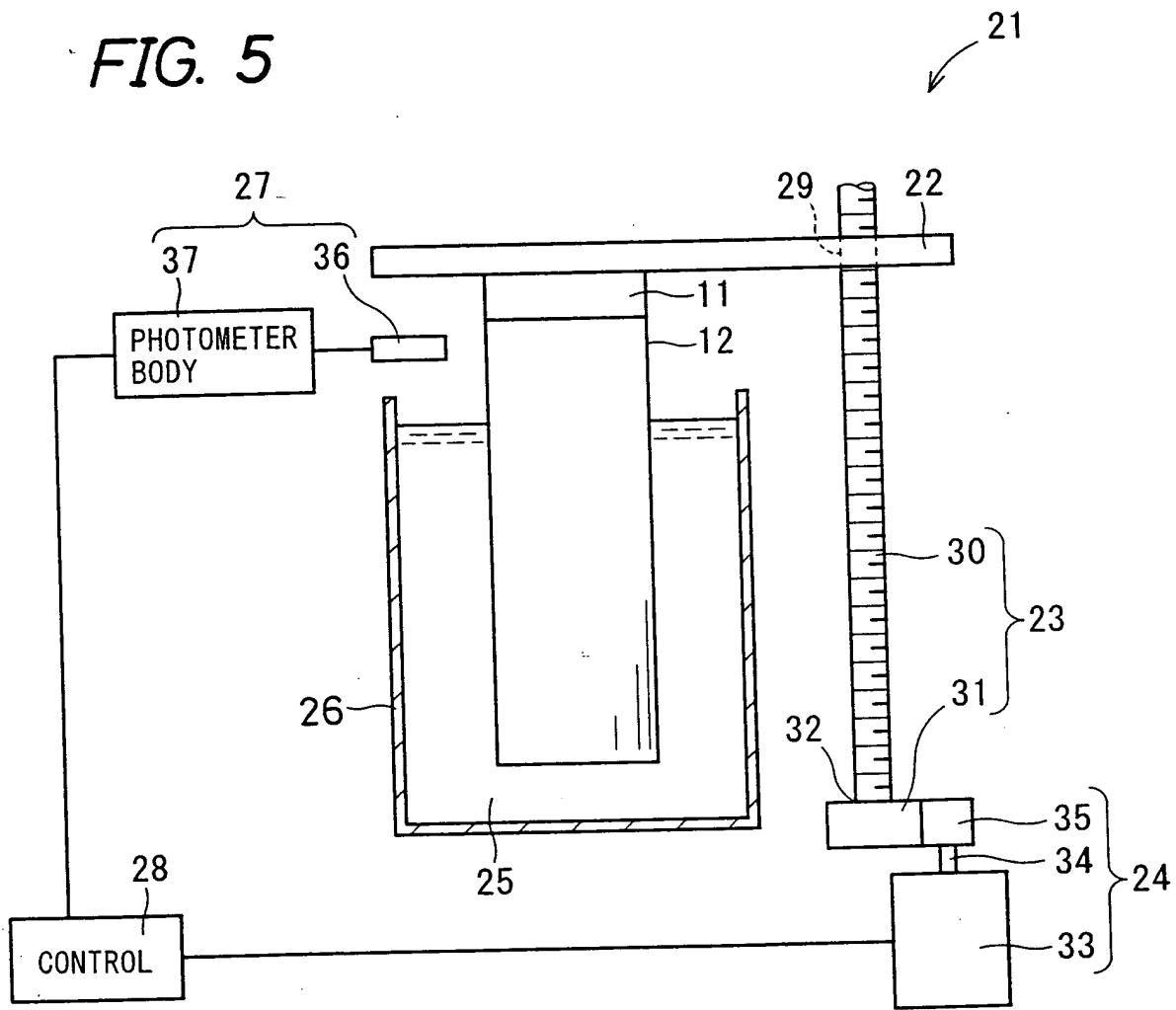


FIG. 6

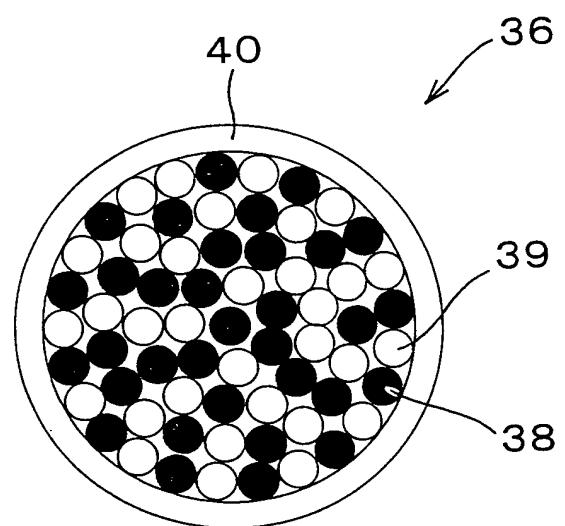


FIG. 7

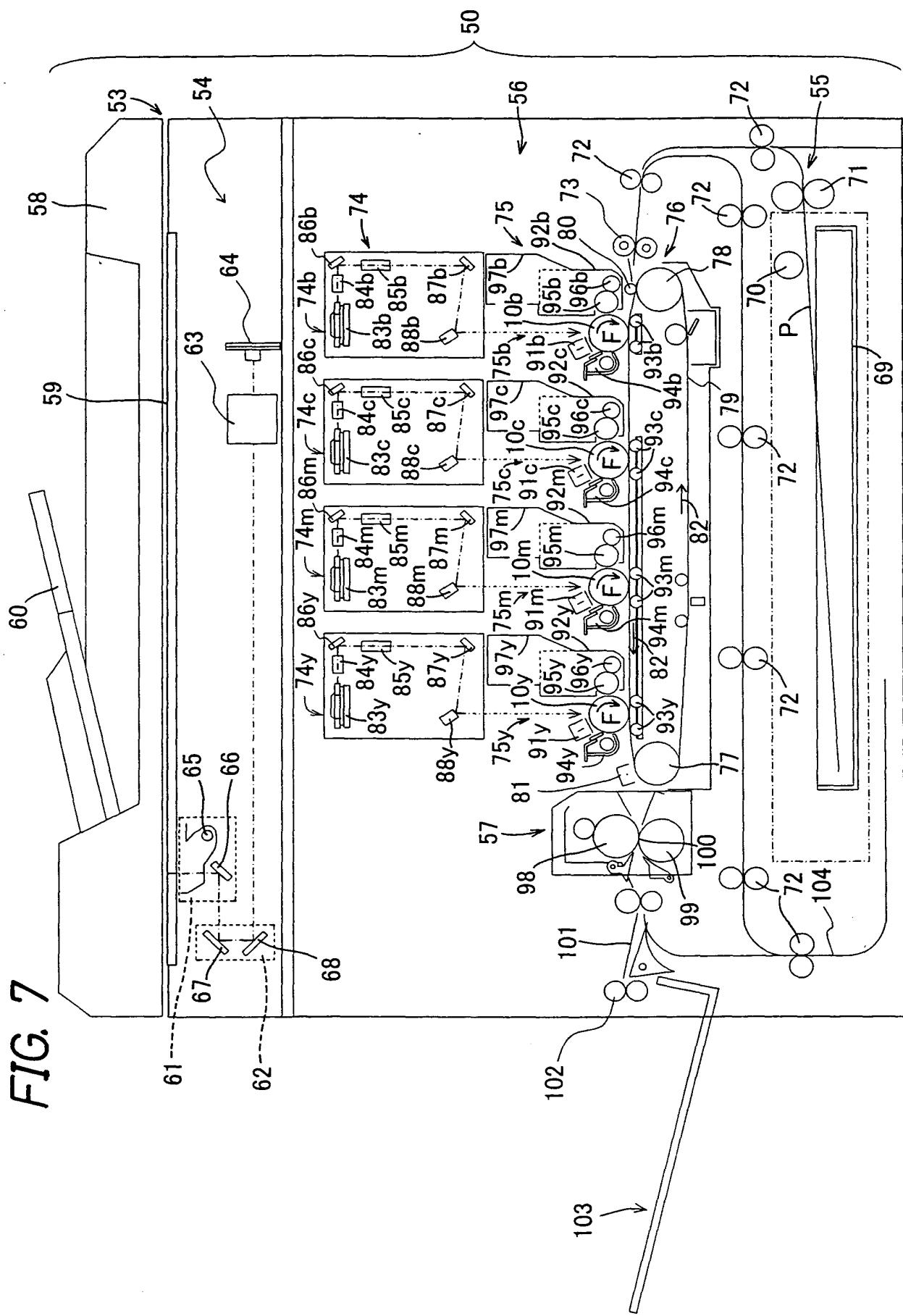
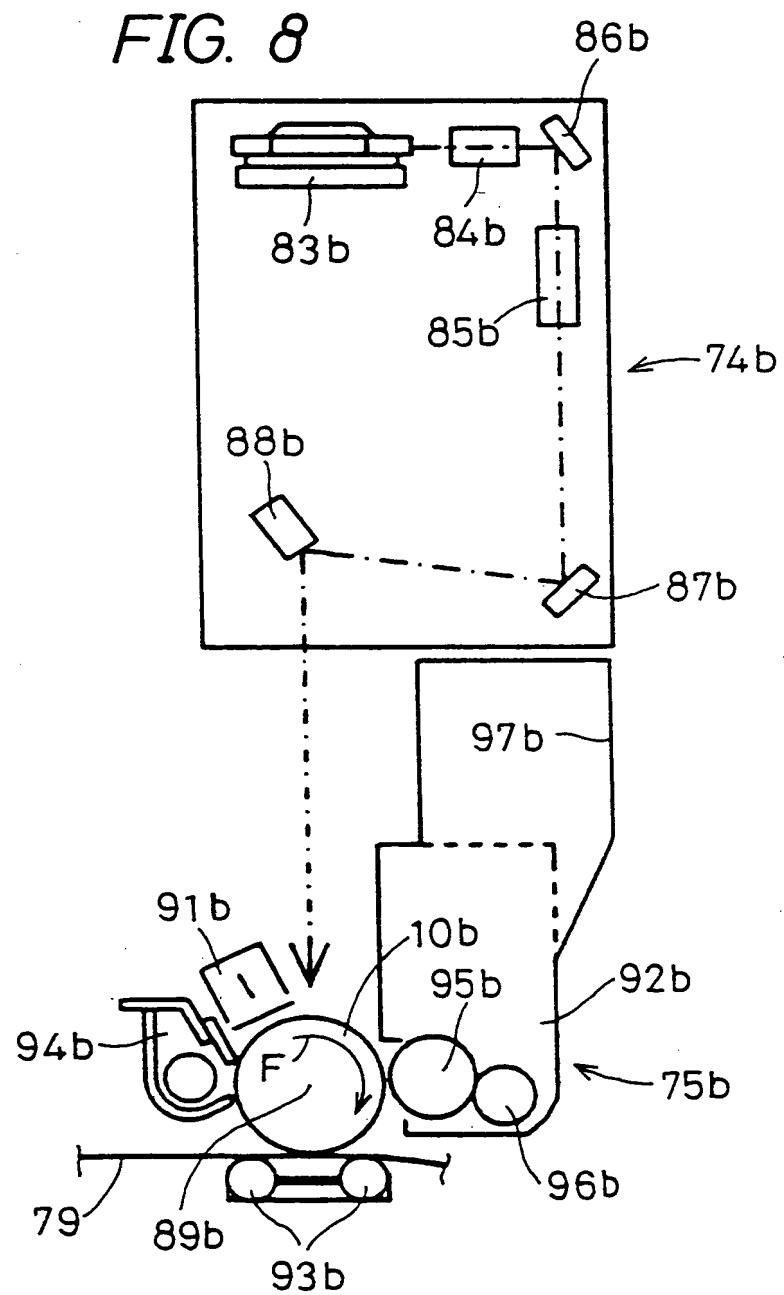
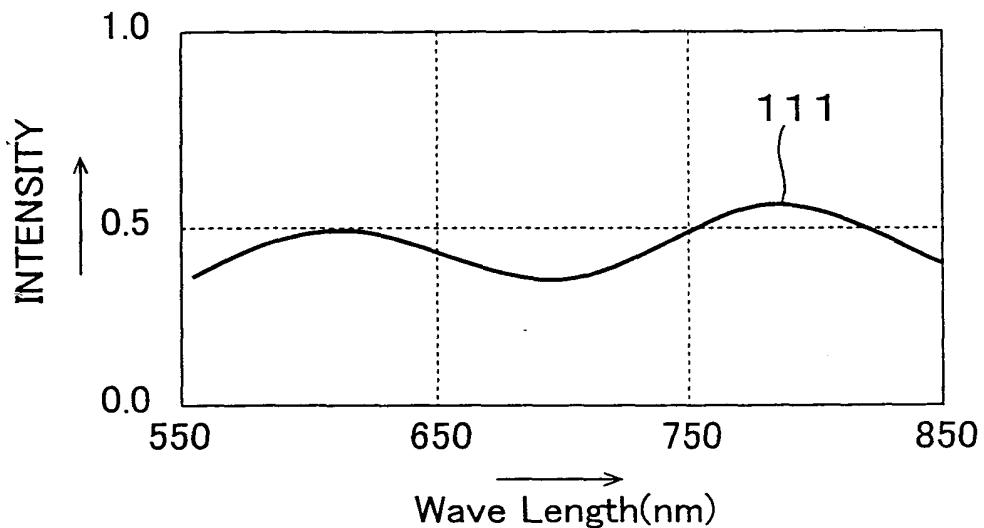


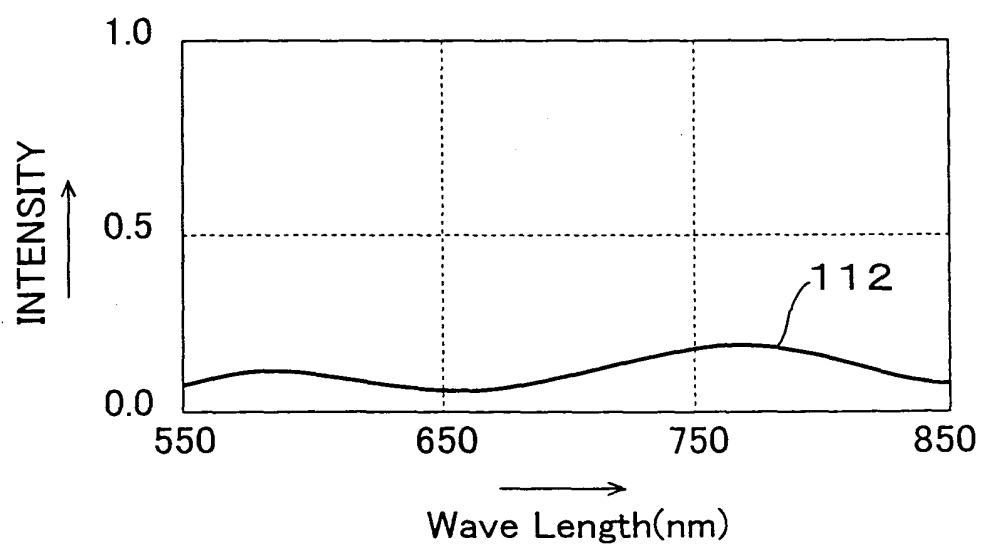
FIG. 8



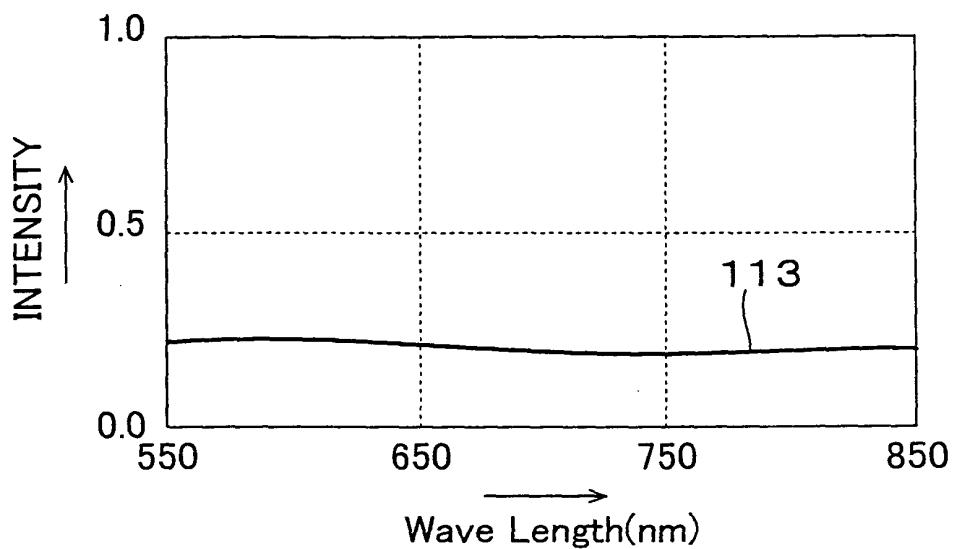
**FIG. 9**



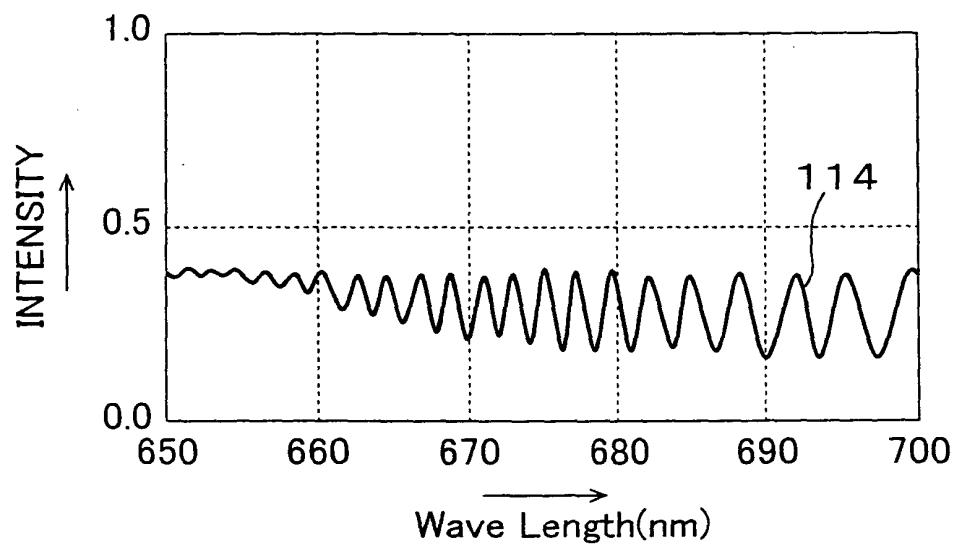
**FIG. 10**



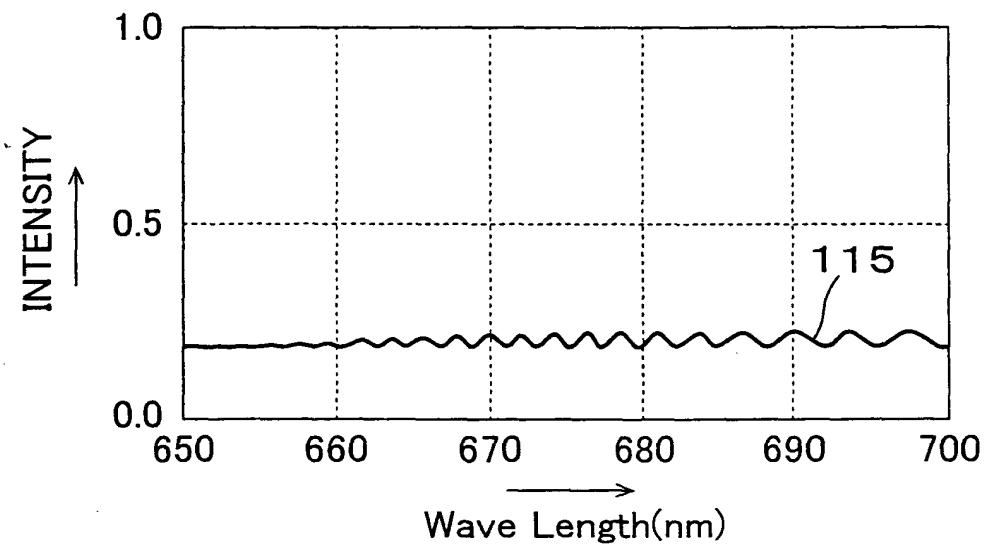
*FIG. 11*



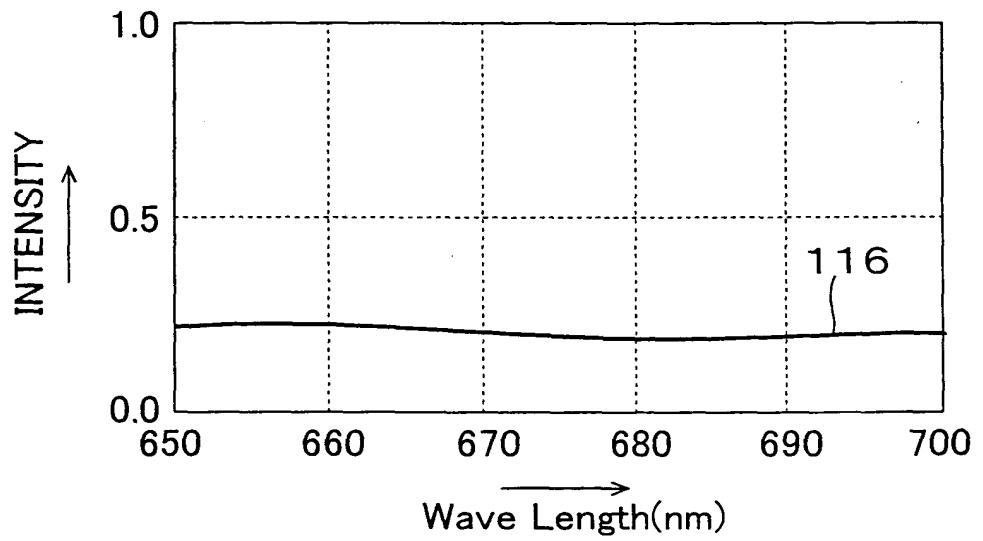
*FIG. 12*



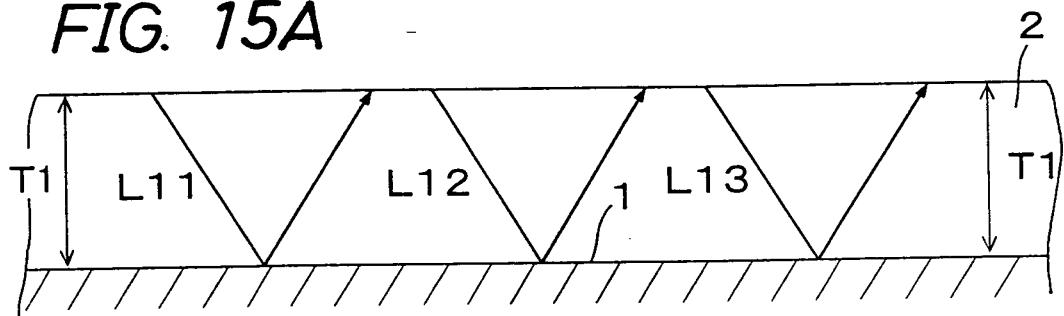
*FIG. 13*



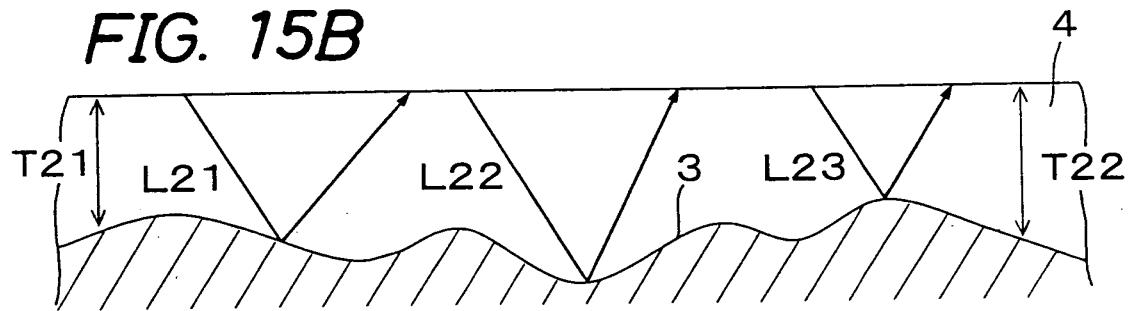
*FIG. 14*



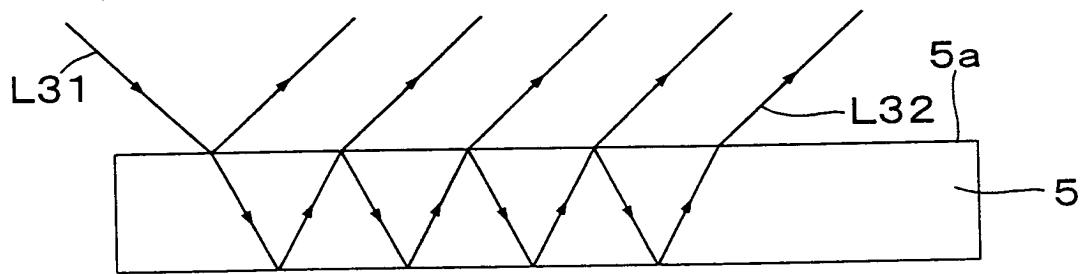
*FIG. 15A*



*FIG. 15B*



*FIG. 16A*



*FIG. 16B*

